Miguel A. Modestino

New York University, 6 MetroTech Center, RH 600A, Brooklyn, NY 11201, USA

Tel: +1 646 997 3594, E-mail: modestino@nyu.edu
www.modestinogroup.com

Personal Information

Citizenship: Venezuela, Italy
Date of Birth: December 26th, 1985 (Caracas, Venezuela)

Education

University of California, Berkeley, CA
Ph.D. in Chemical Engineering (2013)
Management of Technology Certificate

Massachusetts Institute of Technology, Cambridge, MA
Master in Science in Chemical Engineering Practice (2008)
Bachelor of Science in Chemical Engineering (2007)
Minor in Chemistry and Economics (2007)

Professional Appointments and Experience

New York University, New York, NY, USA (Fall 2016 – current)

- Assistant Professor of Chemical and Biomolecular Engineering (January 2017 – current)
- Research Assistant Professor of Chemical and Biomolecular Engineering (Sept 2016 – Dec 2016)

Sunthetics INC, New York, NY, USA (Summer 2018 – current)

- Co-founder and Technology Advisor of startup focused on the development of a sustainable manufacturing process for Nylon 6,6.

École Polytechnique Fédérale de Lausanne, Lausanne, Switzerland (Summer 2013 – Fall 2016)

- Postdoctoral Fellow at the Laboratory of Optics (Prof. Demetri Psaltis) and Laboratory of Applied Photonics Devices (Prof. Christophe Moser). Project manager of the Nanotera – SHINE project (http://shine.epfl.ch)

University of California and Lawrence Berkeley National Laboratory, Berkeley, CA, USA (Fall 2008-Spring 2013)

- Graduate student research assistant under the supervision of Prof. Rachel Segalman. Work on the self-assembly of nanocrystal in polymer matrices, and characterization of transport and structural properties of hybrid inorganic/polymer membranes for solar-fuels applications. Work developed under the Helios Project and Joint Center for Artificial Photosynthesis at Lawrence Berkeley National Laboratory.
- Teaching Assistant for Chemical Kinetics and Reactor Design (Spring 2010) and Polymer Science and Technology (Fall 2011).

Massachusetts Institute of Technology, Cambridge, MA, USA (Fall 2003-Spring 2008)

- Teaching Assistant in the Chemical Engineering Department for Chemical Engineering Projects Laboratory. (Spring 2008)
- Research Assistant in the Department of Chemical Engineering, under the supervision of Prof. Paula Hammond. Work related with the application of layer-by-layer film assembly method, to build novel materials for optical, catalytic, and biomedical applications. (Fall 2003-Spring 2007)
- Teaching Assistant in the Chemistry Department for Organic Chemistry. (Fall 2006)
- Tutor in the Chemical Engineering Department for Introduction to Chemical Engineering. (Fall 2005)

TechActivator, Berkeley, CA, USA (Spring 2011-Fall 2012)

- Co-founder and director of this start-up in UC Berkeley that focuses on accelerating the commercialization of technology developed in top research institutions. (beta.techactivator.com)

British Petroleum Company, Naperville, IL, USA (Summer 2008)

- One month internship as part of the David H. Koch School of Chemical Engineering Practice. Worked in small teams to develop thermodynamic models to predict stability of fuel formulations.

Novartis Pharma AG, Basel, Switzerland (Summer 2008)

- Two month internship as part of the David H. Koch School of Chemical Engineering Practice. Worked in small teams to analyze potential avenues for optimizing Novartis packaging strategy, and perform technical and economical feasibility analyses of continuous manufacturing processes within the company.

Venezuelan Chemistry Olympiad, Caracas, Venezuela (Summer 2004-current)

- Head mentor for the Venezuelan delegation in the 41st International Chemistry Olympiad (IChO), Cambridge-Oxford, UK (July 2009) and the 44th IChO, Washington DC, USA (July 2012). Scientific Observer for Venezuela in Iberoamerican Chemistry Olympiad, Lima, Peru. (2005)

Honors and Awards

- Doctoral New Investigator Award, ACS Petroleum Research Fund (2018)
- MIT Technology Review Innovators Under 35 Award, Latin America (2017).
- Global Change Award (2016). Awarded by the H&M Foundation for game changing ideas that can make the fashion industry circular.
- Energy and Environmental Science Readers' Choice Lectureship award (2015). This prize is awarded annually to an outstanding young scientist (within 10 years of receiving their PhD) who has published in the journal.
- Arkema Graduate Fellowship to outstanding graduate students with high promise in the polymer field (2010)

- Power Top-Off Award to the most competitive prospective student from the Dept. of Chemical Engineering, UC Berkeley (2008)
- "Jose Felix Ribas Order" - Highest academic honor from the Venezuelan Government for young people (2002)
- Silver Medal on the 35th International Chemistry Olympiad (Greece, 2003), Bronze Medal on the 34th International Chemistry Olympiad (Netherlands, 2002), Silver Medal on the VII Iberoamerican Chemistry Olympiad (Argentina, 2002)

Publications

30. Daniela E. Blanco, Aaliyah Z. Dookhith and Miguel A. Modestino*. ***Enhancing selectivity and efficiency in the electrochemical synthesis of adiponitrile***. React. Chem. Eng., 2019, Advance Article. DOI: 10.1039/C8RE00262B

29. Shane Ardo,* David Fernandez Rivas,* Miguel Modestino,* Verena Schulze Greiving,* Fatwa F. Abdi, Esther Alarcon llado, Vincent Artero, Katherine Ayers, Corsin Battaglia, Jan-Philipp Becker, Dmytro Bederak, Alan Berger, Francesco Buda, Enrico Chinello, Bernard Dam, Valerio Di Palma, Tomas Edvinsson, Katsushi Fujii, Han Gardeniers, Hans Geerlings, S. Mohammad H. Hashemi, Sophia Haussener, Frances Houle, Jurriaan Huskens, Brian D. James, Kornelia Konrad, Pramod Patil Kunturu, Detlef Lohse, Bastian Mei, Eric L. Miller, Gary Moore, Jiri Muller, Katherine L. Orchard, Timothy E. Rosser, Fadl Saadi, Jan-Willem Schüttauf, Brian Seger, Stafford W. Sheehan, Wilson A. Smith, Joshua Spurgeon, Maureen Tang, Roel van de Krol, Peter C.K. Vesborg, and Pieter Westerik. ***Pathways to Electrochemical Solar-Hydrogen Technologies.*** Energy and Environmental Science, 2018. Accepted Article. DOI: 10.1039/C7EE03639F (Journal Cover)

28. P. Hadikhani, S.M.H. Hashemi, G. Balestra, M.A. Modestino, F. Gallaire, and D. Psaltis. ***Inertial manipulation of bubbles in rectangular microfluidic channels.*** Lab on a Chip, 2018, **18**, 1035-1046. (Journal Cover)

27. Enrico Chinello,* Miguel A. Modestino, Laurent Coulot, Mathieu Ackermann, Florian Gerlich, Demetri Psaltis, and Christophe Moser. ***A 25.1% efficient stand-alone solar chlor-alkali generator employing a micro-tracking solar concentrator.*** Global Challenges 1.9 (2017).

26. Seyyed Mohammad Hosseini Hashemi,* Matthias Neuenschwander, Pooria Hadikhani, Miguel Modestino, Demetri Psaltis. ***Membrane-less micro fuel cell based on two phase flow***. Journal of Power Sources, 2017, 348, 212–218.

25. Miguel A. Modestino,* David Fernandez-Rivas,* Mohammad Hashemi, Han Gardeniers, Demetri Psaltis. ***The potential for microfluidics in electrochemical energy systems***. Energy and Environmental Science, 2016, 9 (11), 3381-3391.

24. J.W. Schüttauf,‡* M.A. Modestino,‡* E. Chinello, D. Lambelet, D. Dominé, A.Faes, M. Despeisse, J. Bailat, D. Psaltis, C. Moser, C. Ballif. ***Solar-to-hydrogen production at 14.2% efficiency with silicon photovoltaics and earth abundant electrocatalysts***. J. Electrochem. Soc. 2016, 163, 10, F1177-F1181. (Featured by EPFL, NZZ, Arcinfo, ECS, EurekaNews, Opli and RTS)

23. Paul Delrot,* Miguel A. Modestino, François Gallaire, Demetri Psaltis and Christophe Moser. ***Inkjet printing of viscous monodisperse micro-droplets by laser-induced flow focusing***. Phys. Rev. Applied, 2016, 6, 024003. (Editor's selection article)

22. Miguel A. Modestino,* Mohammad Hashemi, Sophia Haussener. ***Mass transport aspects of electrochemical solar-hydrogen generation***. Energy and Environmental Science, 2016, 9 (5), 1533-1551. (EES Readers' Choice Award)

21. Adam Weber,* Chengxiang Xiang, Miguel Modestino, Shane Ardo, Sophia Haussener, Kate Fountain, John Stevens, Meenesh Singh, Katie Chen, Shu Hu, Matthew Shaner. ***Design and Implementation of Solar-Driven Water-Splitting Devices.*** Angewandte Chemie, 2016, 128 (42), 13168-13183.

20. Marcin S. Zielinski, Jae-Woo Choi, Thomas LaGrange, Miguel A. Modestino, S. Mohammad H. Hashemi, Ye Pu, Susanne Birkhold, Jeffrey A. Hubbell, and Demetri Psaltis*. ***Hollow Mesoporous Plasmonic Cavity Nanoshells Enhancing Solar Vapor Generation***. Nano letters 16 (4), 2159-2167.

19. Miguel A. Modestino*, Mikael Dumortier, Mohammad Hashemi, Sophia Haussener, Demetri Psaltis, Christophe Moser. ***Vapor-fed electrochemical hydrogen microgenerator***. Lab on a Chip, 2015, **15**, 2287-2296.

18. Mohammad Hashemi, Miguel A. Modestino, Demetri Psaltis*. ***Membrane-less electrolyzer for pure hydrogen production across the whole pH range***. Energy and Environmental Science, 2015, **8**, 2003-2009. (Invited cover and top scoring article in Energy and Environmental Science. (Featured in EPFL press and ChemWorld, http://www.rsc.org/chemistryworld/2015/04/membrane-less-electrolyser-water-splitting)

17. Claudia A. Rodriguez, ‡ Miguel A. Modestino*, ‡ Demetri Psaltis, Christophe Moser. ***Design and cost considerations of practical solar-hydrogen generator.*** Energy and Environmental Science, 2014. 7 (12), 3828-3835

16. Miguel A. Modestino*, Sophia Haussener*. ***An Integrated Device View on Photo-Electrochemical Solar-Hydrogen Generation***. Annual Review of Chemical and Biomolecular Engineering, 2015, 6 (1), 13-34. (Invited Review)

15. Frances Allen, Luis Comolli, Ahmet Kusoglu, Miguel A. Modestino, Andrew Minor, Adam Weber*. ***The morphology of hydrated Nafion revealed through cryo electron tomography.*** *ACS Macro Lett.*, **2015**, *4* (1), 1–5. (Journal Cover)

14. Eun Cho, Christopher M. Evans, Emily C. Davidson, Megan L. Hoarfrost, Miguel A. Modestino, Rachel A. Segalman, and Jeffrey J. Urban*. ***New Polymer/Nanocrystal Hybrid Architectures for High-Performance Photovoltaic Encapsulants.*** *ACS Macro Lett.*, **2015**, *4* (1), pp 70–74

13. Pepa Cotanda, Guillaume Sudre, Miguel A. Modestino, Xi Chen, Balsara, Nitash*. ***High Anion Conductivity and Low Water Uptake of Phosphonium Containing Diblock Copolymer Membranes.*** Macromolecules, **2014**, *47* (21), pp 7540–7547

12. Miguel A. Modestino, Karl A. Walczak, Alan Berger, Christopher Evans, Sophia Haussener, Carl Koval, John S. Newman, Joel Ager, Rachel A. Segalman*. ***Robust production of purified H_2 in a stable, self-regulating, and continuously operating solar fuel generator.*** *Energy Environ. Sci., 2014, 7 (1), 297-301. (weekly HOT article of EE&S, work featured on LBNL press and NPR http://www.npr.org/2013/04/23/176790800/could-an-artificial-leaf-fuel-your-car)*

11. Miguel A. Modestino, Rachel A. Segalman*. ***Artifical Solar Fuel Generators***. The Bridge, Winter 2013, National Academy of Engineering

10. Miguel A. Modestino, ‡ Camilo Diaz-Botia, ‡ Tyler S. Matthews, Rafael Gomez-Sjoberg, Joel Ager*, Rachel A. Segalman*. ***Integrated microfluidic test-bed for energy conversion devices.*** Phys. Chem. Chem. Phys. 2013, **15**, 7050-7054 (HOT article and top ten highest scoring articles PCCP, work featured on LBNL press http://newscenter.lbl.gov/feature-stories/2013/06/10/testing-artificial-photosynthesis/)

9. Miguel A. Modestino,* Frances I. Allen, Devproshad K. Paul, Shudipto Dishari, Stephanie A. Petrina, Michael A. Hickner, Kunal Karan, Andy M. Minor, Adam Z. Weber and Rachel A. Segalman. ***Self-assembly and transport limitations in confined Nafion films.*** Macromolecules, **2013**, *46* (3), pp 867–873.

8. Yanika Schneider, Miguel A. Modestino, Robert W. Hess, Bryan McCulloch, Rachel A. Segalman*. ***Ionic Conduction in Nanostructured Membranes based on Protic Ionic Liquids*.** Macromolecules, **2013**, *46* (4), pp 1543–1548.

7. Frances I. Allen, Peter Ercius, Miguel A. Modestino, Rachel A. Segalman, Nitash P. Balsara, Andrew M. Minor*. ***Deciphering the Three-Dimensional Morphology of Block Copolymer Thin Films by Transmission Electron Microscopy.*** Micron; 2013; 44, pp 442-450.

6. Miguel A. Modestino, ‡ Ahmet Kusoglu, ‡ Alexander Hexemer, Adam Z. Weber*, Rachel A. Segalman*. ***Controlling Nafion Structure and Properties via Wetting Interactions***. Macromolecules; **2012**; 45 (11), pp 4681–4688.

5. Gang Chen, Miguel A. Modestino, Billy K. Poon, Andre Schrotzek, Stefano Marchesini, Rachel A. Segalman*, Alexander Hexemer, Peter H. Zwart. ***Structure Determination of Pt-coated Au Dumbbells via Fluctuation X-ray Scattering.*** Journal of Synchrotron Radiation; 2012; 19, pp 695-700.

4. Ahmet Kusoglu, ‡ Miguel A. Modestino, ‡ Alexander Hexemer, Adam Z. Weber*, Rachel A. Segalman*. ***Sub-second Morphological Changes in Nafion during Water Uptake Detected by Small-Angle X-Ray Scattering***. *ACS Macro Lett.*; **2012**; *1* (1), pp 33–36.

3. Miguel A. Modestino, Elaine R. Chan, Alexander Hexemer, Jeff J. Urban, Rachel A. Segalman*. ***Controlling Nanorod Self-Assembly in Polymer Thin-Films.*** Macromolecules; **2011**; *44* (18), pp 7364–7371. (Monthly top read articles Macromolecules)

2. Nicole S. Zacharia, Miguel A. Modestino, Paula T. Hammond*. ***Factors Influencing the Interdiffusion of Weak Polycations in Multilayers***. Macromolecules; **2007;** *40*(26) pp 9523 – 9528.

1. Nicole S. Zacharia, Dean M. DeLongchamp, Miguel A. Modestino, Paula T. Hammond*. ***Controlling Interdiffusion and Exchange Processes in Layer by Layer Assemblies***. Macromolecules; **2007;** *40*(5) pp 1598 – 1603.

‡ co-first authorship, *corresponding author

Patent Applications

- Miguel A. Modestino, Sophia Haussener**. *Solar production of Nylon polymers and precursors for Nylon production***. Patent pending, EPFL/NYU, 2018 (PCT/IB2018/051852)
- S. Mohammad H. Hashemi, Miguel A. Modestino, Jae-Woo Choi, Demetri Psaltis. ***Membraneless electrolyzer***. Patent pending, EPFL. 2015 (WO 2016/063206 A1)
- Miguel A. Modestino, S. Mohammad H. Hashemi, Christophe Moser, Demetri Psaltis. ***Vapor-Fed Microelectrolysis Cells***. Patent pending, EPFL. 2014
- Miguel A. Modestino, Sophia Haussener, Joel W. Ager, Rachel A. Segalman. ***System for continuous/stable/robust operation of electrochemical devices under near neutral pH conditions.*** Lawrence Berkeley National Lab, Disclosure of Invention (Nov 2012) (Lawrence Berkeley National Lab candidate for R&D 100 awards).

Research Funding

- **ACS Petroleum Research Fund**: Ionic Liquid-Polymer Gel Electrolytes for Electrochemical Olefin Separations. Annual direct cost: $55,500, 09/01/2019 – 08/31/2021
- **MD5 Launch:** H2POWdER Project. Funds Granted: $200,000. 05/01/2018 – 04/31/2019.
- **ExxonMobile:** Unrestricted Research Grant. Funds Granted: $20,000, 01/09/2018 – Indefinite.
- **Swiss National Science Foundation**: Multiphase Flow Electrochemical Reactors, Annual direct cost: $ 72,016, 01/01/2018-12/31/2021.
- **National Science Foundation: RAPID:** Transportable Energy Storage for Enhancing Power Grid Resiliency to Natural Disasters. Annual direct cost: $30,951, 10/01/2017-09/30/2018.
- **H&M Foundation:** SolarTextiles. Funds Granted: $155,000, 07/01/2017 – Indefinite.

Invited Presentations

- Miguel A. Modestino. ***SolarTextiles: Manufacturing textiles with energy from the sun*.** MIT Technology Review EmTech Caribbean 2018. Santo Domingo, Dominican Republic. May 11th, 2018.
- Miguel A. Modestino. ***Controlling Self Assembly and Mass Transport in Artificial Photosynthesis Materials and Devices***. University of Oxford's Department of Materials Colloquium, Oxford, UK. April 26th, 2018.
- Miguel A. Modestino. ***Artificial Photosynthesis Engineering: Towards Solar-Chemical Reactors.*** Chemical Engineering Department Seminar, New Jersey Institute of Technology, NJ, USA. April 2nd, 2018.
- Miguel A. Modestino. ***Artificial Photosynthesis Engineering: Towards Solar-Chemical Reactors.*** Chemistry Department Seminar, Lehman College, Bronx, NY, USA. February 21th, 2018.

- Miguel A. Modestino. ***Artificial Photosynthesis Engineering: Towards Solar-Chemical Reactors.*** New York Nanoscience Discussion Group. Department of Chemistry, New York University, New York, NY, USA. January 30th, 2018.
- Miguel A. Modestino. ***SolarTextiles: Manufacturing textiles with energy from the sun.*** MIT Technology Review Innovators under 35 LATAM 2017. November 16th, Mexico City, Mexico.
- Miguel A. Modestino. ***SolarTextiles: Harvesting the sun's energy to make textiles and clean the environment, all at once.*** Fashion Now and Then Conference, October 20th, 2017, LIM College, New York, NY, USA.
- Miguel A. Modestino. ***Artificial Photosynthesis Engineering: Towards Solar-Chemical Reactors.*** MRS Stevens Chapter Guest Lecture. Department of Chemical Engineering, Stevens Institute of Technology, Hoboken, NJ. April 26th, 2017.
- Miguel A. Modestino. ***Unconventional water splitting approaches towards scalable solar-hydrogen generators.*** Laboratory for Chemical Technology Seminar. Gent University, Gent, Belgium. September 30th, 2016.
- Miguel A. Modestino. ***Unconventional water splitting approaches towards scalable solar-hydrogen generators.*** EPFL Valais Seminar. Sion, Switzerland. April 12th, 2016.
- Miguel A. Modestino. ***Unconventional water splitting approaches towards scalable solar-hydrogen generators.*** Chemical and Biomolecular Engineering Seminar. New York University, Brooklyn, NY, USA. February 22nd, 2016.
- Miguel A. Modestino. ***Self-Assembly and Transport in Artificial Photosynthesis Membranes***. Symposium on the Future of Polymer Nanotechnology. University of Applied Sciences and Arts of Northwestern Switzerland and Paul Scherrer Institute, Windisch, Switzerland. December 18th, 2015.
- Miguel A. Modestino. ***Unconventional water splitting approaches towards scalable solar-hydrogen generators***. Energy and Environmental Science Readers' Choice Award Lecture. International Symposium on Energy Conversion and Storage. Beijing, China. June 1st, 2015.
- Miguel A. Modestino. ***Artificial Photosynthesis Engineering***. Process Intensification Seminar at ETH, Zurich, Switzerland. March 24th, 2015.
- Miguel A. Modestino, Claudia A. Rodriguez, Demetri Psaltis, Christophe Moser. ***Design Principles of Deployable Solar-Hydrogen Generators.*** IEEE Photonics Conference, San Diego, CA. October 15th, 2014.
- Miguel A. Modestino. ***Self-Assembly and Mass Transport in Artificial Photosynthesis Systems***. Seminar at Chalmers University of Technology, Göteborg, Sweden. October 2nd, 2014.
- Miguel A. Modestino. ***Systems engineering solutions for the development of cost effective solar-fuel generators***. Seminar at University of Twente, Enschede, Netherlands. February 18th, 2014.
- Miguel A. Modestino. ***Self-Assembly and Mass Transport in Artificial Photosynthesis Systems***. Seminar at EMPA Dübendorf. August 2013.
- Miguel A. Modestino, Augusta E. Modestino. ***Promoting Development from the Lab.*** TEDxUSB (March 2012), Universidad Simon Bolivar, Caracas, Venezuela. (http://www.youtube.com/watch?v=GDNCqosmVLA)
- Miguel A. Modestino, Ahmet Kusoglu, Alexander Hexemer, Adam Z. Weber, and Rachel A. Segalman. ***Understanding Hierarchical Structure in Membranes and Assemblies for Artificial Photosynthesis.*** Synchrotron Radiation in Polymer Science, 2012. San Francisco, CA.
- Miguel A. Modestino, Ahmet Kusoglu, Alexander Hexemer, Adam Z. Weber, and Rachel A. Segalman. ***Understanding Hierarchical Structure in Solar Fuel Membranes and Assemblies.*** ALS Users Meeting 2011. Lawrence Berkeley National Lab, Berkeley, CA.

Contributed Presentations

- Miguel A. Modestino, E. Chinello, L. Coulot, M. Ackermann, F. Gerlich, C. Moser, D. Psaltis. **High-Efficiency Photo-Electrochemical Chloro-Alkali Production.** AIChE 2017 Meeting, October 29th, 2017, Minneapolis, MN, USA.
- Miguel A. Modestino, S. Mohammad H. Hashemi, M. Neuenschwander, D. Gregory, C. Moser, Demetri Psaltis. ***Developing Microfluidic Air-Based Solar-Hydrogen Generators***. Materials Research Society, Spring Meeting 2017, Phoenix, AZ, USA.
- Enrico Chinello, Miguel A Modestino, Jan-Willem Schüttauf, David Lambelet, Antonio Delfino, Didier Dominé, Antonin Faes, Matthieu Despeisse, Julien Bailat, Demetri Psaltis, David Fernandez Rivas, Christophe Ballif, Christophe Moser. ***SPIE Optics+ Photonics for Sustainable Energy.*** November 2nd, 2016, San Diego, CA, USA.
- Miguel A Modestino, Jan-Willem Schuettauf, Enrico Chinello, Claudia A Rodriguez, David Lambelet, Antonio Delfino, Didier Dominé, Antonin Faes, Matthieu Despeisse, Julien Bailat, Christophe Ballif, Demetri Psaltis, Christophe Moser. ***Towards the Development of Practical Solar-Fuels Devices: Silicon-Based Solar-Hydrogen Generators with 14.2% Solar-to-Hydrogen Efficiency.*** 230th Electrochemical Society Meeting, September, 2016. Honolulu, HI, USA.
- Miguel A. Modestino, S. Mohammad H. Hashemi, Demetri Psaltis. ***Splitting Water from Vapor Feeds: Towards Air-Based Solar-Hydrogen Generators.*** 229th Electrochemical Society Meeting, Jun 2nd, 2016. San Diego, CA, USA.
- S. Mohammad H. Hashemi, Miguel A. Modestino, Demetri Psaltis. ***Towards High Efficiency Membrane-less Electrolysis***. MRS Spring Meeting. March 30th, 2016. Phoenix, AZ, USA.
- Christophe Moser, Paul Delrot, Damien Loterie, Edgar Morales Delgado, Miguel Modestino, Demetri Psaltis. ***Complex light in 3D printing.*** SPIE Photonics West Conference. February 18th, 2016. San Francisco, CA, USA.
- Paul Delrot, Miguel A. Modestino, Demetri Psaltis, Christophe Moser. ***Laser-assisted inkjet printing of highly viscous fluids with sub-nozzle resolution***. SPIE Photonics West Conference. February 15th, 2016. San Francisco, CA, USA.
- Miguel A. Modestino, Mohammad Hashemi, Christophe Moser, Demetri Psaltis. ***Next-generation microstructured water-splitting devices.*** AIChE 2015 Meeting, November 10th, 2015, Salt Lake City, UT, USA.
- Miguel A. Modestino, S. Mohammad H. Hashemi, Demetri Psaltis. ***Unconventional water splitting platforms.*** 228th Electrochemical Society Meeting, October 14th, 2015, Phoenix, AZ, USA.

- Miguel A. Modestino, Claudia A. Rodriguez, Demetri Psaltis, Christophe Moser. ***Design and cost considerations of Solar-Fuel Devices*.** 227th Electrochemical Society Meeting, May 28th, 2015, Chicago, IL, USA.
- Miguel A. Modestino, Claudia A. Rodriguez, Demetri Psaltis, Christophe Moser. ***Design Considerations of Cost Effective Solar-Hydrogen Generators*.** Materials Research Society, Spring Meeting 2015, San Francisco, CA, USA.
- Miguel A. Modestino, Claudia A. Rodriguez, Demetri Psaltis, Christophe Moser. ***Design Considerations of Deployable Solar-Hydrogen Generators*.** AIChE 2014 Meeting, November 18th, 2014, Atlanta, GA, USA.
- Miguel A. Modestino, C. Moser, D. Psaltis, S. Haussener, A. Braun, J. Bailat. ***Engineering Approaches Towards Cost Effective Solar-Hydrogen Generators***, Materials Research Society, Spring Meeting 2014, San Francisco, CA, USA.
- Christopher Evans, Gabriel Sanoja, Yanika Schneider, Miguel Modestino, Rachel Segalman. ***Ionic Conductivity and Gas Permeability of Polymerized Ionic Liquid Block Copolymer Membranes***. American Physical Society, March Meeting 2014. Denver, CO, USA.
- Miguel A. Modestino, and Rachel A. Segalman. ***Understanding Hierarchical Structure in Solar Fuel Membranes and Assemblies.*** Materials Research Sociaty, Spring Meeting 2013, San Francisco, CA, USA.
- Miguel A. Modestino, and Rachel A. Segalman. ***Understanding Hierarchical Structure in Solar Fuel Membranes and Assemblies.*** American Physical Society, March Meeting 2013. Baltimore, MD, USA
- Miguel A. Modestino, Rachel A. Segalman. ***Polymer mediated solution self-assembly of nanorods***. American Physical Society, March Meeting 2012. Boston, MA, USA.
- Miguel A. Modestino, Jeff J. Urban, Rachel A. Segalman. ***Controlling Nanorod Self-Assembly in Polymer Thin-Films.*** American Physical Society, March Meeting 2011. Dallas, TX, USA.
- Miguel A. Modestino, Jeff J. Urban, Rachel A. Segalman. ***Vertical Alignment of Nanorods in Thin Film Polymer Nanocomposites.*** American Physical Society, March Meeting 2010. Portland, OR, USA.
- Miguel A. Modestino, Nicole Zacharia, Paula T. Hammond. ***Dendrimer Encapsulated Metallic Nanoparticules Inmovilized in Polyelectrolyte Thin-Films***. VIII Venezuelan Chemistry Congress (2007). Caracas, Venezuela.
- Nicole S. Zacharia, Miguel A. Modestino, Paula T. Hammond. ***Nanoparticles in PAMAM dendrimer containing polyelectrolyte multilayers***. 232nd ACS National Meeting (2006), San Francisco, CA, USA.

Service to the Scientific Community

- Co-chair for ***Green Chemical Reaction Engineering for Sustainability Symposium***, AIChE Meeting 2018, Pittsburg, PA, USA.
- Session chair of symposium on ***(Photo)Electrocatalytic Materials and Integrated Assemblies for Solar Fuels Production***. MRS Spring Meeting 2017, Phoenix, AZ, USA.
- Co-organizer of international conference on ***Pathways towards Solar-Hydrogen Deployment***, June 2016, Lorentz Center, The Netherlands.
- Guest editor for ***Solar-Fuels Special Issue***, Journal of Physics D: Applied Physics. To be published in 2016.
- Co-chair of Special Symposium on ***Optoelectronic Devices for Solar Energy Harvesting*** at the 2014 IEEE Photonics Conference, San Diego, October 2014.
- Proposal Reviewer for National Science Foundation (CBET) and Department of Energy (DOE EERE).
- Reviewer for ECS (J. Eletrochem. Soc.), ACS (J. Phys. Chem, ACS Macro Letters and Macromolecules), RSC (Energy and Environmental Science), Wiley journals (Angewandte Chemie, Advanced Materials and Advanced Energy Materials).

Research Mentoring

Current Post-Doctoral Researchers:

- **Thomas Yu**, Materials Science Ph.D., Northwestern University, (May 2018 – current)

Current Students:

- **Daniela E. Blanco**, Chemical Engineering Ph.D. student, NYU. (Jan 2017 – current)
- **Adlai Katzenberg**, Chemical Engineering Ph.D. student, NYU. (Jan 2017 – current)
- **Daniel Frey,** Chemical Engineering Ph.D. student, NYU. (Jan 2018 – current)
- **Brian Chen,** Applied Physics B.S. student, NYU (Sep 2017 – current)
- **Aaliyah Zainub,** Chemical Engineering B.S./M.S. student, NYU (Sep 2017 – current)
- **Tana Siboonruang,** Chemical Engineering B.S. student, NYU (Sep 2017 – current)
- **Nicole Schnabel,** Chemical Engineering B.S./M.S. student, NYU (Jan 2018 – current)

Past Students:

- **Akash Raman,** Chemical Engineering B.S. intern, SASTRA University, India (Feb 2018 – Jun 2018)
- **Cesar Muñoz,** Chemical Engineering M.S. student, NYU (Jan 2017 – Jun 2018)
- **Zhixiao Zhao**, Chemical Engineering M.S. student, NYU (Sep 2017 – Sept 2018)
- **Pieter Westerik,** Visiting Ph.D. student, Twente University, The Netherlands (Jan 2018 – April 2018)
- **Alexandra Ryan,** Chemical Engineering B.S. student, NYU (Sep 2017 – May 2018)
- **Myriam Sbeiti,** Chemical Engineering B.S. student, NYU (Jan 2017 – May 2018)
- **Ricardo Matthinson**, Chemical Engineering B.S. student, University of Wisconsin (Jun – Aug 2017)
- **Janar Jeksen**, Mechanical Engineering B.S. student, NYU Abu Dhabi, (Jun – Aug 2017)

Mentoring experience prior to NYU:

- **S. Mohammad H. Hashemi**, Ph.D., EPFL. (Spring 2014-Fall 2016)
- **Enrico Chinello**, Ph.D. student, EPFL. (Summer 2015-Fall 2016)

- **Pooria Hadikhani,** Ph.D. student, EPFL (Spring 2016-Fall 2016)
- **Eduard Peralta**, M.S. student, Polytechnical University of Cataluyna (Fall 2016)
- **Youssef Kanoun**, M.S. student, EPFL (Spring 2016)
- **Mohamed Mestiri**, M.S. student, EPFL (Sprong 2016)
- **Daniel Gregory**, M.S. student, EPFL. (Fall 2015)
- **Matthias Neuenschwander**, M.S. student, EPFL. (Fall 2015-Fall 2016)
- **David Lambelet**, M.S. student, EPFL. (Fall 2014)
- **Minyu Gao**, M.S. student, EPFL. (Fall 2014)
- **Sebastiaan Wisman**, B.S. intern, University of Twente. (Fall 2015)
- **Suchol Savagatrup**, B.S. in Chemical Engineering student, U.C. Berkeley (2010-2011)